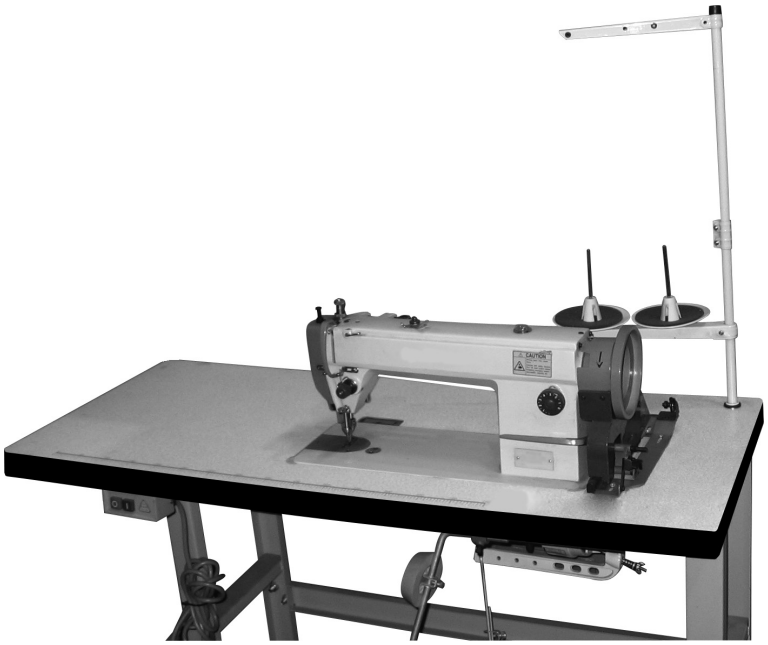
CHICAGO®
Electric

SEWING MACHINE - SINGLE NEEDLE

Model 92966

ASSEMBLY, SETUP, AND ADJUSTING INSTRUCTIONS



Shown mounted to Table (Sku 3929; not included)

Distributed Exclusively by
HARBOR FREIGHT TOOLS®

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TO PREVENT SERIOUS INJURY, READ AND UNDERSTAND ALL WARNINGS AND INSTRUCTIONS BEFORE USE.

For technical questions and replacement parts, please call 1-800-444-3353

Specifications

Machine Type	Heavy duty, industrial sewing machine; high speed, single needle-lock stitch
Drive	V-belt driven
Action	Foot pedal operation, along with a knee and manual lifting arm for presser foot. Presser tension adjustment
Feed Type	Link style needle feed reduces slippage
Sewing Directions	Forward and reverse feed
Machine Dimensions	20-$^{3}/_{4}$" L x 10" H
Accessories	- 2 Screwdrivers - 3 Bobbins - Small lubricating bottle with tip - Spare needles - Power Switch
Table Stand Kit	Table Stand Kit (Model 03929) not included
Stitching Speed	2,000 SPM
Motor Type	Clutch motor; 1,725 RPM, 5.8/2.9 amps, 110/220 VAC, 60 Hz; single phase
Sewing Thickness	up to $^{3}/_{8}$" leather
Overall weight	56 lb.

<u>Caution:</u> Make certain that the voltage switch on the motor is set correctly for your use. See page 6. This Machine requires oil to be added before use -see page 6 for details.

Save This Manual

You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep the manual and invoice in a safe and dry place for future reference.

Safety Warnings and Precautions

WARNING: When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.

Read all instructions before using this tool!

1. **Keep work area clean.** Cluttered areas invite injuries.

2. **Observe work area conditions.** Do not use machines or power tools in damp or wet locations. Don't expose to rain. Keep work area well lighted. Do not use electrically powered tools in the presence of flammable gases or liquids.

3. **Keep children away.** Children must never be allowed in the work area. Do not let them handle machines, tools, or extension cords.

4. **Store idle equipment.** When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.

5. **Use the right product for the job.** Do not attempt to force a small product or attachment to do the work of a larger industrial tool. There are certain applications for which

this product was designed. It will do the job better and more safely at the rate for which it was intended. Do not modify this product and do not use this product for a purpose for which it was not intended.

6. **Dress properly.** Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically nonconductive clothes and nonskid footwear are recommended when working. Wear restrictive hair covering to contain long hair.

7. **Do not overreach.** Keep proper footing and balance at all times. Do not reach over or across running machines.

8. **Maintain tools with care.** Keep needles sharp and tools clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and, if damaged, have them repaired by a qualified technician. The handles must be kept clean, dry, and free from oil and grease at all times.

9. **Disconnect power.** Always turn the machine off and, if possible, disconnect the power plug of the machine from the receptacle before adjusting, repairing, or cleaning the machine; leaving the machine unattended; tilting the machine head; or removing the V-belt.

10. **Remove adjusting keys and wrenches.** Check that keys and adjusting wrenches are removed from the machine work surface before plugging it in.

11. **Avoid unintentional starting.** Be sure the switch is in the Off position when not in use and before plugging in.

12. **Stay alert.** Watch what you are doing, use common sense. Do not operate when you are tired.

13. **Check for damaged parts.** Before using any product, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician. Do not use if any switch does not turn On and Off properly.

14. **Guard against electric shock.** Prevent body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerator enclosures.

15. **Replacement parts and accessories.** When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool. Approved accessories are available from Harbor Freight Tools.

16. **Do not operate tool if under the influence of alcohol or drugs.** Read warning labels if taking prescription medicine to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.

17. **Use proper size and type extension cord.** If an extension cord is required, it must be of the proper size and type to supply the correct current to the tool without heating up. Otherwise, the extension cord could melt and catch fire, or cause electrical damage to the tool. This tool requires use of an extension cord with up to **10 amps** capability

(up to 50 feet), with wire size rated at **18 AWG**. Longer extension cords require larger size wire.

18. **Maintenance.** For your safety, service and maintenance should be performed regularly by a qualified technician.

19. **People with pacemakers should consult their physician(s) before using this product.** Electromagnetic fields in close proximity to a heart pacemaker could cause interference to or failure of the pacemaker.

20. **Keep hands away from the needle when you turn the power switch on, or while the machine is operating.**

21. **Do not place your fingers into the thread take-up cover while the machine is operating.**

22. **During operation, never place your head, hair, or hands in the proximity of the hand wheel, V-belt, bobbin winder, or motor.**

23. **Do not operate the machine with any safety guards removed.**

24. **This machine shall only be operated by appropriately trained operators.**

25. **For your personal protection, we recommend you wear ANSI-approved safety glasses when using the machine.**

26. **If oil or grease comes in contact with your eyes or skin, immediately wash the affected areas and consult a physician.**

27. **Tampering, modifying or altering any device (aside from the cord and plug by a licensed electrician) on the machine is prohibited and will void manufacturer's warranty.**

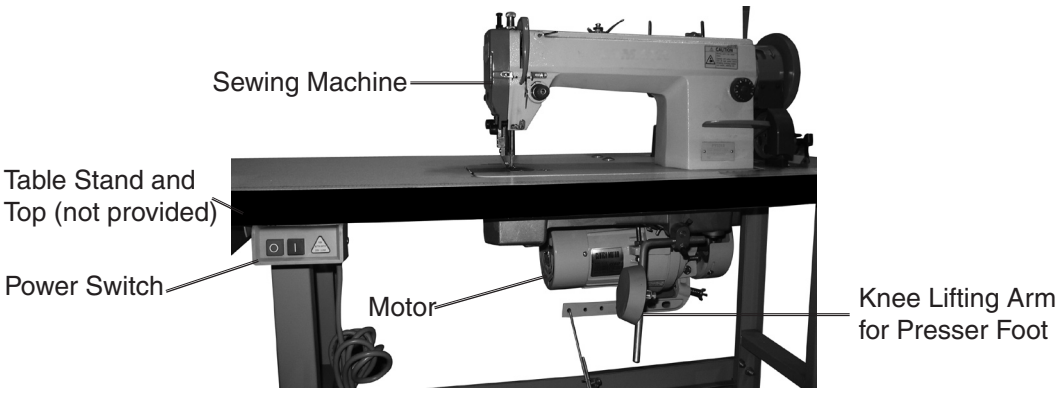
28. **Repair, adjustment, and specific maintenance shall only be performed by a qualified service technician.** Alteration or replacement of the 3 prong grounded electrical plug provided with the machine must only be performed by a licensed electrician. This machine must be properly grounded.

Note: Performance of this tool may vary depending on variations in local line voltage. Extension cord usage may also affect tool performance.

Warning: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Unpacking

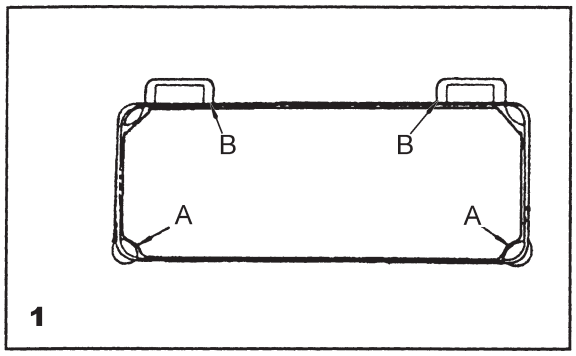
When unpacking, check to make sure that the parts shown in the photo on the following page are included. Note that the machine table shown is not included, and must be ordered separately. If any parts are missing or broken, please call Harbor Freight Tools at the number on the cover of this manual as soon as possible.

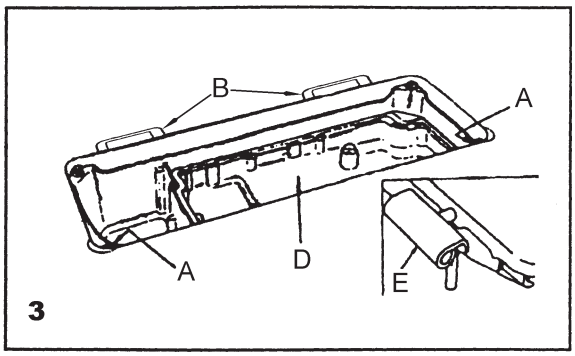


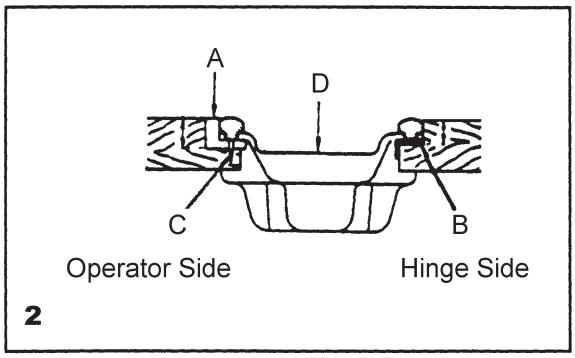
Assembly

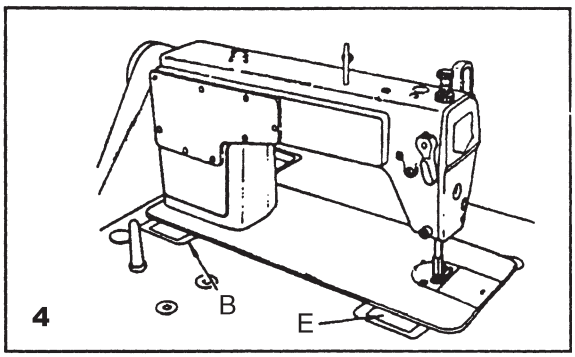
The assembly instructions describe mounting the Single-Needle Sewing Machine (Model 92966) to the Table Stand (Model 03929), not included. In order to complete this procedure, you must first purchase and assemble the Table Stand Kit (Model 03929).

1. Locate four corner rests in the rectangular hole of the Table Stand where the machine will sit.





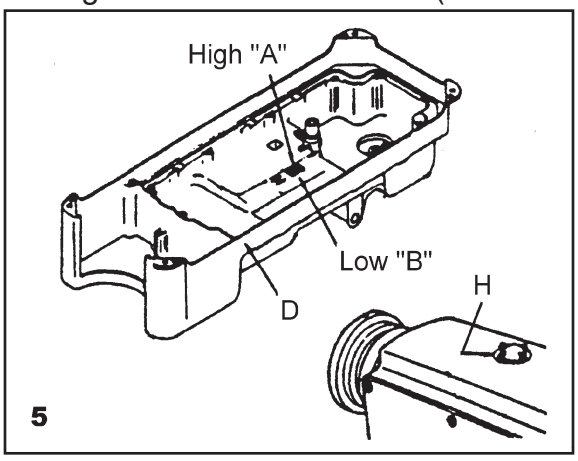




2. Place two rubber seats (A) on the operator-side and secure with supplied hardware (C). See figure 1.
3. Place two rubber hinge rests (B) on the hinge-side and secure with supplied hardware (C).
4. Seat the Oil Pan (D) on the corner seats (A). See figure 2.
5. Insert Hinges (E) into the machine bed. See figure 3.
6. Fit the machine head's hinges to the rubber hinge rests (B) before placing the machine head on the corner seats. See figure 4.

7. Tilt the machine back to expose the Oil Pan (D). See figure 5.

8. Fill the Oil Pan with sewing machine lubrication oil (#7 white oil) to the “high” mark “A”.



Add more oil when the level is to the “low” mark “B”. After lubrication, and during operation, oil splashing can be seen through the Oil Sight Window (H).

9. Lower the machine head to the table top.

10. Mount the Motor to the underside of the table top as shown below. Use the supplied hardware.

Note: Top switch determines rotation. Switch left for counter-clockwise; switch right for clockwise rotation.

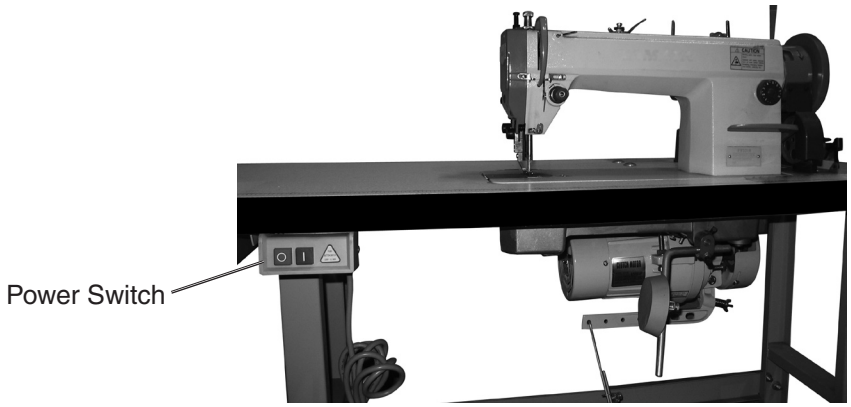
Note: Motor is 110/220V Single Phase. Disconnect power and flip switch to desired voltage. Switch left for 110V, switch right for 220V. **For 220 V, the power plug must be rewired by a qualified technician.**

Note: Receptacle for 6 volt work light (not included).

11. Place the V-belt around the Sewing Machine Pulley, through the slot in the table top, and around the Motor pulley. Attach the Pulley Safety Cover.

12. Tighten the V-belt tension by adjusting the long bolt and nut at location (K). The proper tension is reached when the V-belt can only be deflected 1/2 inch.

13. Mount the Power Switch under the table top, on the operator’s side. Use the supplied hardware.



Mounting the Thread Stand

Note: The Thread Stand is designed to be mounted on the Table Stand Kit (Model 03929 - not included). Unless indicated otherwise, all parts referred to in this set of instructions are listed in the *Bobbin Winder & Thread Stand Unit Parts List* found on page 23. During assembly, it will be helpful to refer to that list and the diagram above it on the same page.

14. Locate the large hole in the far right corner (from the location that the operator will be seated) of the Table (not included). Place the Rubber Washer (10-41) and Washer (10-33) onto the Lower Spool Rest Rod (10-32) and insert the Rod into the hole mentioned above. Place another Washer (10-33) over the end of the Rod, and thread on and tighten a Nut (10-34).

15. Place the Spool Support (10-42) over the Lower Column (10-32) about halfway down. Insert a Screw (10-27) and Nut (10-43) through the Support.

    Note: The Support has tabs that hold onto the corners of the Nut to make tightening easier. When assembling, place the Nut on the side with these tabs.

    Tighten the Screw.

16. Insert the threaded end of the Spool Pin (10-36) through one of the holes in the top of the arm of the Spool Support (10-42). Place a Washer (10-28) and Nut (10-31) over the end of the Pin and tighten. Place the Spool Rest (10-37), Spool Mat (10-38), and the Spool Vibration Stopper (10-35) over the end of the Spool Pin. Repeat this step for both of the Spool Pins (10-36).

17. Place the Column Pipe Connector (10-29) over the top of the Lower Column (10-32) until the Rod is about halfway through the Connector. Place a Screw (10-30) and Nut (10-31) through the bottom hole in the Connector and finger-tighten.

18. Place the Upper Spool Rest Rod (10-26) into the top of the Column Pipe Connector (10-29). Place a Screw (10-30) and Nut (10-31) through the top hole in the Connector. Tighten all of the Screws and Nuts in the Connector.

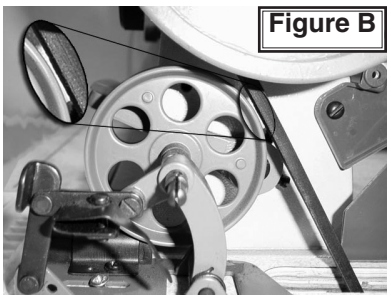
19. Place the Thread Hanger (10-24) about halfway over the top of the Upper Column (10-26). Insert a Screw (10-27) and Nut (10-43) through the Hanger as explained in the note in step 14, above. Tighten the Screw and place the Column Cap (10-25) over the end of the Upper Column (10-26).

Mounting the Bobbin Winder

Note: Unless indicated otherwise, all parts referred to in this set of instructions are listed in the *Bobbin Winder & Thread Stand Unit Parts List* found on page 23. During assembly, it will be helpful to refer to that list and the diagram above it on the same page.

20. Remove the Belt Cover (part 8-27, on page 21). Swing the sewing machine so the base is in the operating position, resting on the table. Set the Bobbin Winder to the 'ON' Position-see *ON Position,* below.

21. **Make sure the Bobbin Winder is in the 'ON' position.** Position the Base (Bobbin Winder Base Assembly) (10-1) so that the Thread Winder Assembly (10-4) lines up with and just touches the belt. Mark pilot hole locations on the table at the far end of each of the two channels in the Base as indicated in *Figure A*.



22. Set the Base (10-1) aside and swing the sewing machine out of the way. Carefully drill straight pilot holes for each of the two locations marked above. Place the base in location and secure using two Wood Screws (10-22) and Washers (10-23). Leave the Screws just loose enough to allow the Base to slide.

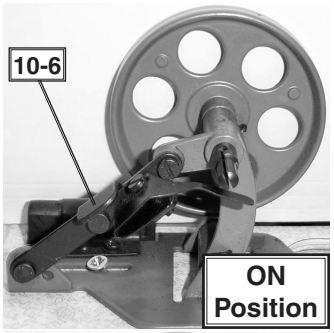
23. Swing the Sewing Machine back into it's operating position. Put the Bobbin Winder in the 'OFF' position-see *OFF Position,* below. Slide the Bobbin Winder Assembly close to the belt until it just barely doesn't touch it ($^1/_8$" gap or less)-see *Figure B*, above. Tighten the Wood Screws (10-22) from step 22, above.

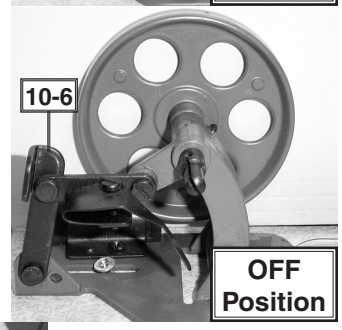
24. Put the Belt Cover back on the Sewing Machine before use.

Setup and Adjustment Section Contents

Setup and Adjustment

Caution: To properly break-in your new sewing machine, and avoid possible damage to the machine, sew at moderate to slow speeds for the first 15 minutes of use.





Bobbin Winder Operation

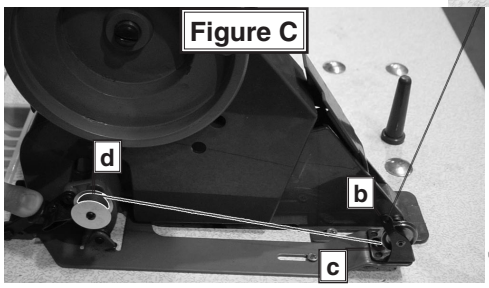
The Bobbin Winder assists in winding thread onto the Bobbin. The Bobbin Winder has two positions, 'ON' and 'OFF':

OFF Position The Bobbin Winder won't contact the belt.

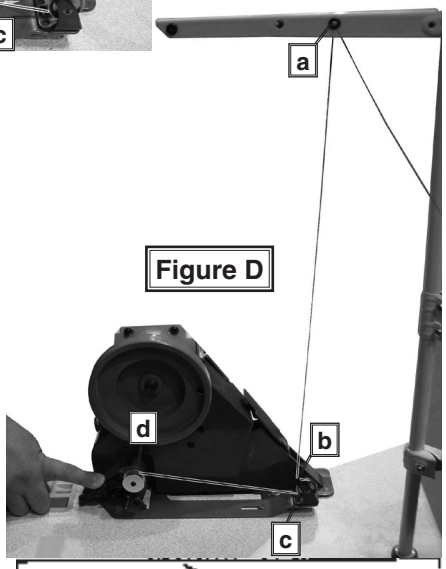
WARNING: Shut the machine off <u>completely</u> before working around the needle or other moving parts.

ON Position This position is with the Connecting Rod (10-6) pressed, as shown in *Figure C*. The Shaft on the Bobbin Winder will spin; winding thread onto the Bobbin.

Winding Thread Onto the Bobbin

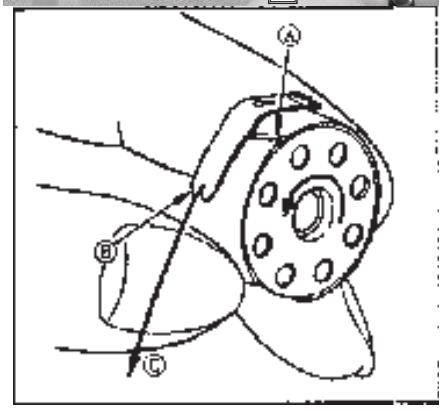


1. Place a Bobbin onto the Bobbin Winder Shaft (10-3) as shown at point ***d*** in *Figure C*, right.
2. Route the Thread from the Spool (not shown) up through the Thread Guide Tube (10-39, ***point a***), the hole in the Thread Tension Bracket Assembly (10-15, ***b***), over and under the far side of the Tension Disc (10-17, ***c***), and connect it to the Bobbin (d). - See *Figure D*, right.
3. While the Connecting Rod (10-6) is pressed (as shown in both *Figures C* and *D*) the Bobbin Winder will be in the 'ON' position and the Bobbin will fill with thread. When finished, release the Connecting Rod and the Bobbin Winder will reset to the 'OFF' position.



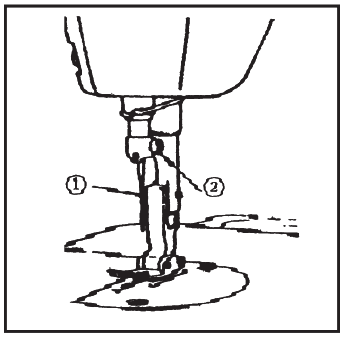
Setting the Bobbin into the Bobbin Case

1. Hold the Bobbin so that the thread exit is to the left, and push the Bobbin into its case.
2. Feed the thread through slit "A" and pull the thread in direction "B". By doing so, the thread will pass under the tension spring and exit at notch "B".
3. Verify that the Bobbin rotates in the direction of the arrow when thread "C" is pulled.

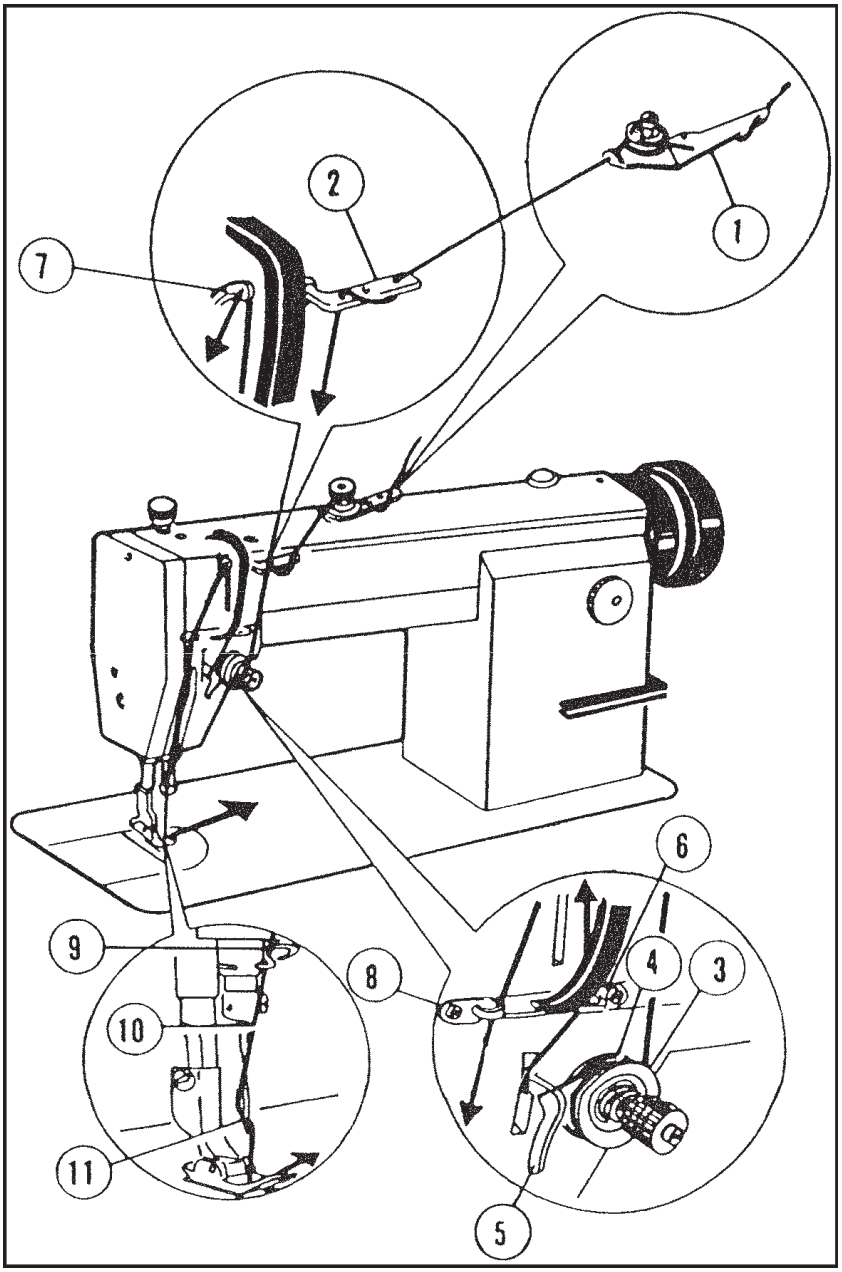


Attaching the Needle

Replacement Needle Type: 135 X 17



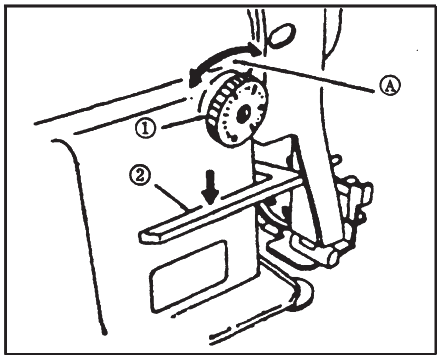
1. Unplug the Power Cord from the electrical outlet.
2. Select a proper needle size according to the thread count and type of material being sewn.
3. Turn the Hand Wheel until the needle bar reaches the highest point of its stroke.
4. Loosen Screw (2) and hold Needle (1) with its indented part facing toward the Presser Bar (5-18).
5. Insert the needle and push it up until it will go no farther.
6. While holding in place, securely tighten Screw (2).



Threading the Machine Head

Set the thread spool on its holder and guide the thread through the machine as illustrated to the left. The numbers in the illustration indicate the threading sequence.

Adjusting the Stitch Length

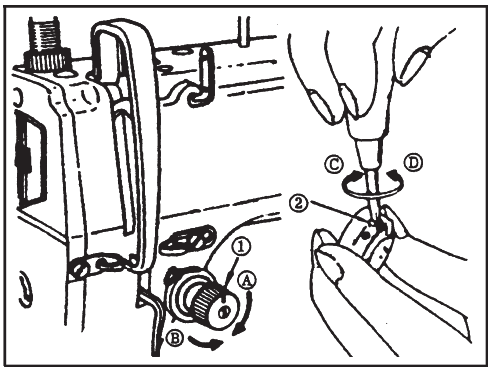


1. To increase the stitch length, turn the Stitch Length Dial (1) to the desired number (in millimeters) as indicated under the scale dot (A) on the machine.
2. To decrease the stitch length, turn the Stitch Length Dial (1) to the desired setting. The Feed Lever (2) may require adjustment to allow the Dial to move.

Reversing Sewing Direction

Depress and hold the Feed Lever (2) to sew in a reverse direction. After the Lever is released, sewing direction will automatically return to forward.

Adjusting the Needle Thread Tension

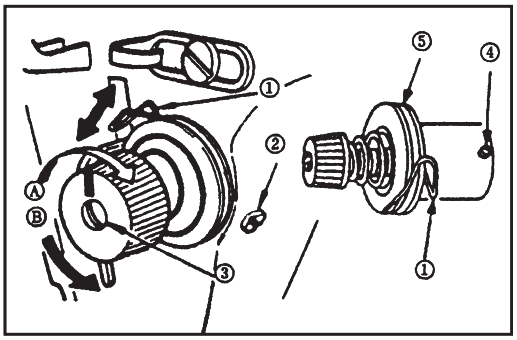


1. Turn Tension Adjustment Knob (1) clockwise (A) to increase thread tension.
2. Turn Tension Adjustment Knob (1) counterclockwise (B) to decrease thread tension.

Adjusting the Bobbin Thread Tension

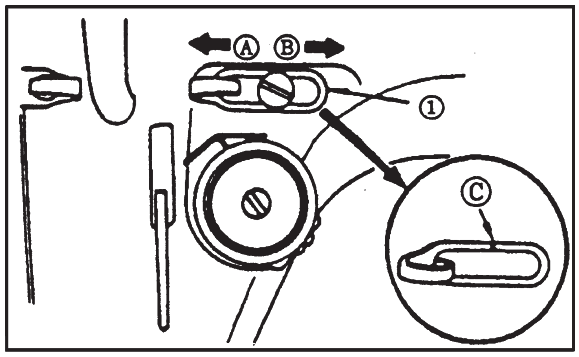
1. Turn the Tension Adjustment Screw (2) clockwise (A) to increase bobbin tension.
2. Turn the Tension Adjustment screw (2) counterclockwise (B) to decrease bobbin tension.

Changing the Thread Take-up Spring Stroke and Pressure



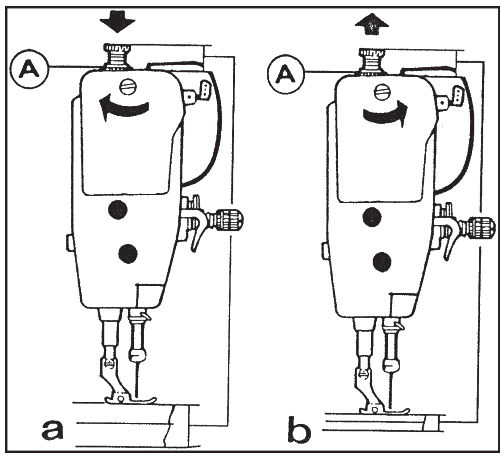
1. Loosen Set Screw (2).
2. To increase the stroke, turn the Tension Knob Screw (3) clockwise (A).
3. To decrease the stroke, turn the Tension Knob Screw (3) counterclockwise (B).
4. Loosen Set Screw (2) and pull out the Tension Arm (5).
5. Loosen Set Screw (4) and remove the Tension Knob Screw (3).
6. Turn the Tension Knob Screw (3) clockwise (A) to increase pressure; or turn counterclockwise (B) to decrease pressure.
7. Replace Tension Knob Screw (3), tighten Set Screw (4), and replace the assembly.

Adjusting the Thread Take-up Stroke



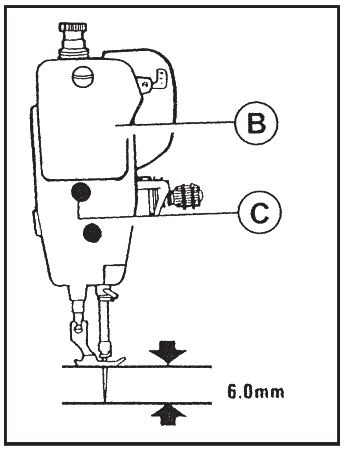
1. When sewing heavy weight materials, move the Thread Guide (1) to the left (A) to increase the length of thread pulled out by the Thread Take-up.
2. When sewing lightweight materials, move the Thread Guide (1) to the right (B) to decrease the length of thread pulled out by the Thread Take-up.
3. The normal setting is when the marker line “C” on the Thread Guide (1) is aligned with the center of the screw.

Setting the Presser Foot Pressure



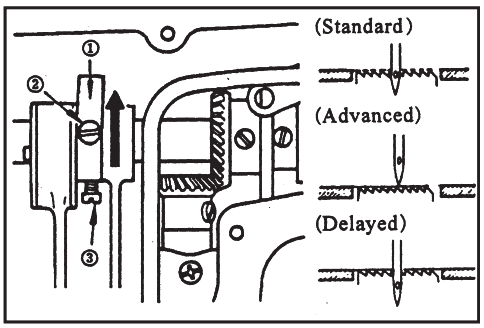
1. Loosen Nut (A), and turn the Presser Spring Regulator clockwise (a) to increase Presser Foot pressure.
2. To decrease Presser Foot pressure, turn the Presser Spring Regulator counterclockwise (b).
3. After adjustment, tighten Nut (A).

Adjusting the Presser Bar Height



1. Remove the Rubber Plug (C) on the Face Plate (B). Loosen the set screw underneath.
2. Manually adjust the Presser Bar height, and the angle of the Presser Foot. The normal position is 6 mm clearance.
3. After adjusting, retighten the Set Screw and replace the Rubber Plug (C). Check to ensure that the presser foot is not loose.
4. Manually turn the Hand wheel through a full cycle to verify that the presser foot will not contact the walking foot or obstruct the needle. If it does readjust the Presser Foot.

Adjusting the Feed Timing

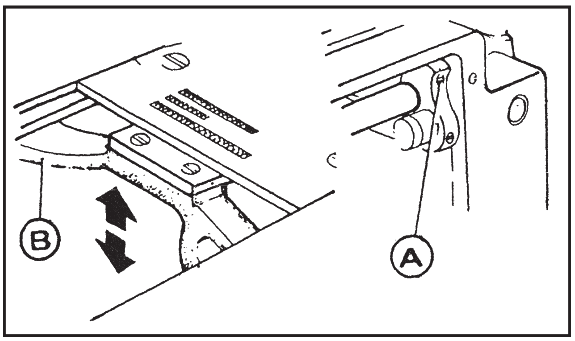


1. Loosen Set Screws (2) and (3) on the Feed Eccentric Cam (1) and properly position the Eccentric Cam. Retighten the Set Screws.
2. To advance the feed timing in order to prevent uneven material feed, move the Feed Eccentric Cam up (clockwise).
3. To delay feed timing and increase stitch tightness, move Feed Eccentric Cam down (counterclockwise).

Adjusting the Height of the Feed Dog

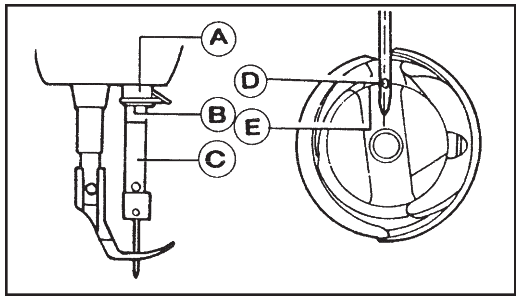
The Feed Dog is factory adjusted. If the Feed Dog juts out too much, puckering may result when sewing lightweight materials. To adjust the height of the Feed Dog:

1. Move the Feed Dog to the front end of the throat plate.
2. Loosen Screw (A) of Crank.
3. Move the Feed Dog (B) up or down to make the adjustment.
4. Tighten Screw (A), being careful not to over-tighten.



Adjusting Needle-to-hook Timing

1. Turn the Hand Wheel to bring the Needle Bar (C) down to the lowest point of its stroke.
2. Remove the Rubber Plug (A), then loosen the Set Screw (B).
3. Move the Needle Bar (C) down until the Eye of the Needle (D) lines up with the inside surface of the bobbin case holder (E).
4. Tighten the Set Screw (B) and replace the Rubber Plug (A).
5. Turn the Hand Wheel until the needle descends about 2.5 mm. For typical hook timing, the hook should be directly about 1.2 mm above the upper edge of the needle eye at this point.



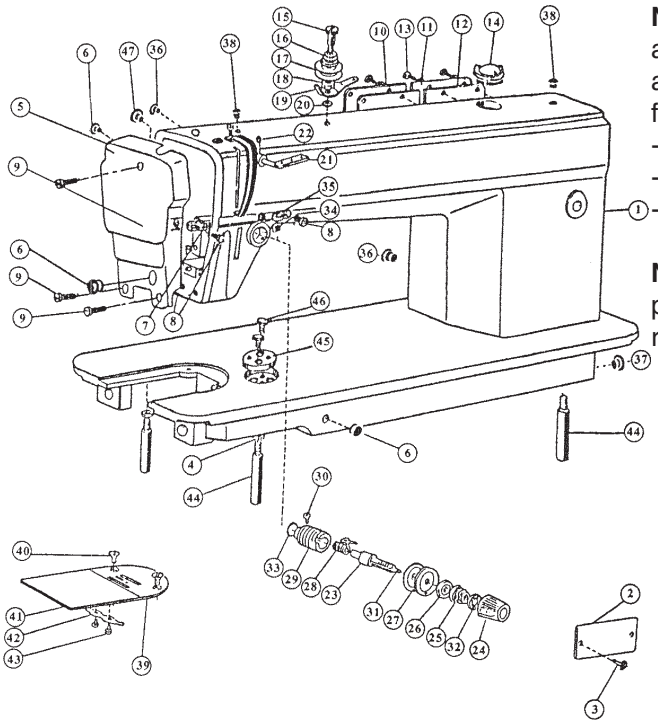
6. After making the adjustments in steps 3 and 4, align the Hook Blade point (5) with the center of the needle (4).

   Provide a clearance of .001” to .004” (0.04 to 0.1 mm) between the needle and the hook. This clearance is less than 1/64” (almost touching). Securely tighten the three Set Screws. If the clearance is too small, the tip of the hook will be abraded. If it is too large, it will lead to skip over.

Maintenance

1. Machine adjustments should only be performed by a qualified technician.
2. Check the oil level weekly when the machine is used daily. Add sewing machine oil as required to the high level marking.
3. Clean the machine with a clean, damp cloth. Do not use solvents or thinners.
4. When not in use, cover the machine and store in a clean and dry location.

ASSEMBLY DIAGRAM 1 - ARM BED



NOTE: When ordering parts from the following lists, always include the list title, item number and description, and page number. For example, to order the first part from page 14 list, you would state:
- Parts List 1 - Arm Bed
- Item #1-1 Arm
- Page: 14

NOTE: Some parts are listed and shown for illustration purposes only and are not available individually as replacement parts.

PARTS LIST 1

Part	Description	Q'ty
1-1	Arm	1
1-2	Spec. Plate	1
1-3	Rivet	4
1-4	Washer	2
1-5	Face Plate	1
1-6	Rubber Plug	1
1-6a	Rubber	1
1-6b	Rubber	1
1-7	Threadcam	1
1-8	Screw	1
1-9	Screw	3
1-10	Side Plate (Left)	1
1-11	Side Plate (Right)	1
1-12	Washer	1
1-13	Screw	8
1-14	Oil Screen Assembly	1
1-15	Screw	1
1-16	Spring	1
1-17	Tension Disc	2

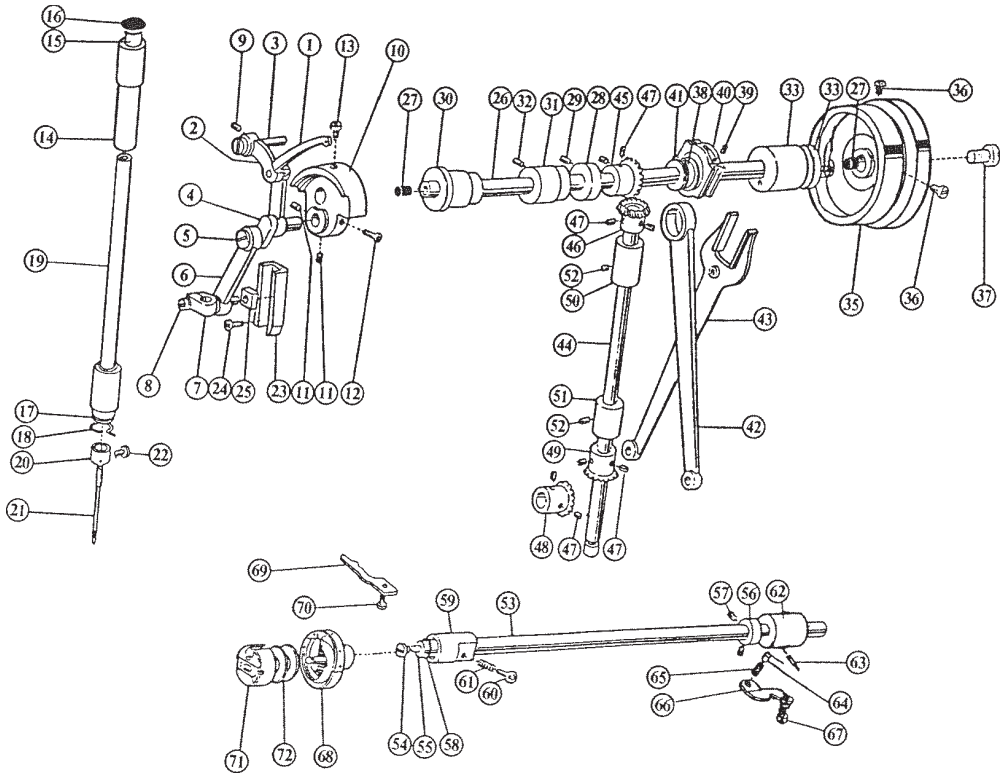
Part	Description	Q'ty
1-18	Screw	1
1-19	Tension Disc	1
1-20	Washer	1
1-21	Three-eye Finger	1
1-22	Set Screw	1
1-23	Screw	1
1-24	Nut	1
1-25	Spring	1
1-26	Thread Releasing Plate	1
1-27	Thread Tension Disc	2
1-28	Thread Take-up Spring	1
1-29	Thread Tension Adjusting Bracket	1
1-30	Screw	1
1-31	Thread Releasing Pin	1
1-32	Stopping Plate	1
1-33	O-ring	1
1-34	Set Screw	1
1-35	Thread Finger	1

Part	Description	Q'ty
1-36	Rubber Plug	2
1-37	Rubber Plug	1
1-38	Rubber Plug	2
1-39	Sliding Plate Assembly	1
1-40	Screw	2
1-41	Sliding Plate	1
1-42	Spring	1
1-43	Screw	2
1-44	Bed Leg	3
1-45	Holder	1
1-46	Screw	2
1-47	Rubber Plug	1
1-48	Motor (not shown)	1
FESM-400	Servo motor (Slower replacement for stock motor, not shown, optional)	
SNU-21	Lamp (Not shown, optional)	

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER NOR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

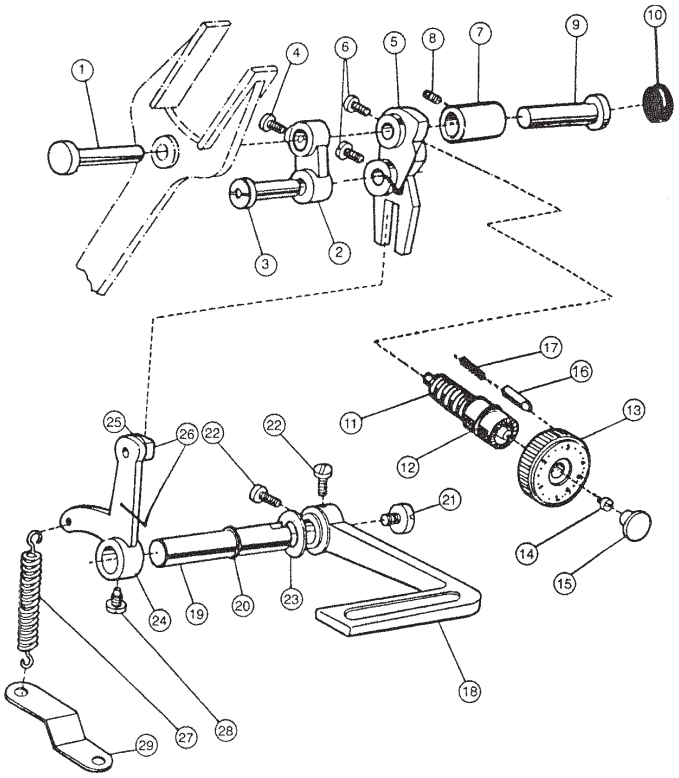
ASSEMBLY DIAGRAM 2 - NEEDLE FEED MAIN SHAFT



PARTS LIST 2

Part No.	Description	Q'ty	Part No.	Description	Q'ty
2-1	Take-up thread	1	2-37	Screw	1
2-2	Take-up thread con	1	2-38	Feed drive cam	1
2-3		1	2-39	Screw	2
2-4-A	Thread take-up crank	1	2-40		1
2-4-B	Needle bearing	2	2-41	Thrust collar	1
2-5	Endscrew Left-hand	1	2-42	Feed crank connecting rod	1
2-6	Needle bar crank connecting rod	1	2-43	Feed"y"connecting asm	1
2-7	Needle crank	1	2-44	Vertical shaft	1
2-8	Needle bar adaptor	1	2-45	Bevel gear	1
2-9	Screw	1	2-46	Vertica shaft bevel gear(upper)	1
2-10	Needle bar crank	1	2-47	Screw	8
2-11	Screw	2	2-48	Rock shaft bevel gear	1
2-12	Screw	1	2-49	Vertical shaft bevel gear(lower)	1
2-13	Set screw	1	2-50	Vertical shaft bushing(upper)complete	1
2-14	Rubber bar upper bushing	1	2-51	Verthcal shaft bushing(lower)complete	1
2-15	Felt	1	2-52	Screw	2
2-16	Rubber plug	1	2-53	Hook driving shaft	1
2-17	Needle bar shaft cover	1	2-54	Screw	1
2-18		1	2-55	Oil wick	1
2-19	Needle bar	1	2-56	Hook driving shaft thrust collar	1
2-20	Thread finger	1	2-57	Screw	2
2-21	Needle	1	2-58	Oil washer	1
2-22	Screw	1	2-59	Hook driving shaft thrust collar (left)	1
2-23	Rail	1	2-60	Screw	1
2-24	Screw	2	2-61	Spring	1
2-25	Sliding block	1	2-62	Hook driving shaft thrust collar(right)	1
2-26	Arm shaft	1	2-63	Oil tube	1
2-27	Rubber plug	2	2-64	Screw	1
2-28	Collar	1	2-65	Spring	1
2-29	Screw	2	2-66	Frame	1
2-30	Front bushing	1	2-67	Screw	1
2-31	Middle bushing	1	2-68	Hook Asm	1
2-32	Screw	1	2-69	Rotating hook position finger	1
2-33	Main shaft thrust collar	1	2-70	Screw	1
2-34	Main shaft thrust collar	1	2-71	Bobbincase	1
2-35	Hand wheel	1	2-72	Bobbin	1
2-36	Screw	2			

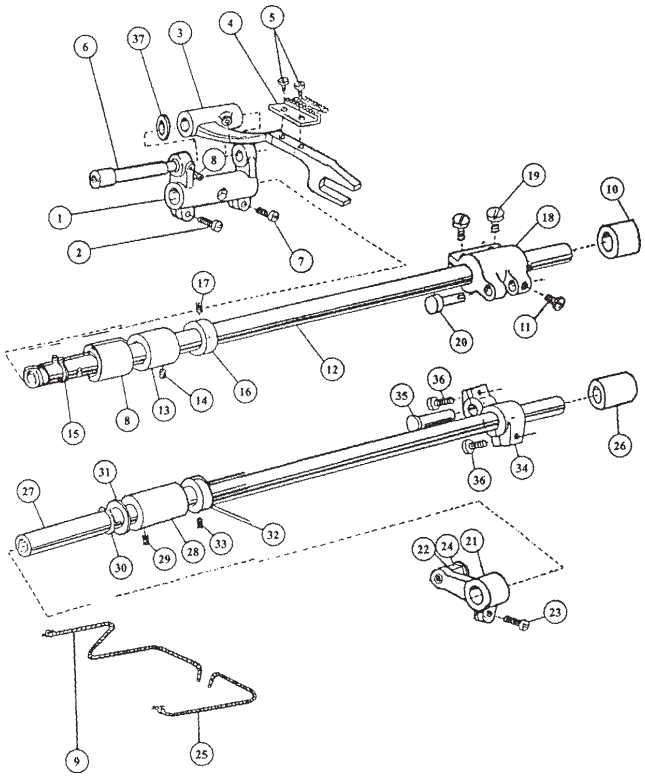
ASSEMBLY DIAGRAM 3 - FEED MECHANISM COMPONENTS



PARTS LIST 3

Part No.	Description	Q'ty
3-1	Feed lifting shaft crank	1
3-2	Crank connecting	1
3-3	Crankshaft	1
3-4	Screw	1
3-5	Thrust collar	1
3-6	Screw	2
3-7	Thrust collar	1
3-8	Screw	1
3-9		1
3-10	Rubber	1
3-11	Screw	1
3-12	"O"ring	2
3-13	Stitch length dial	1
3-14	Screw	1
3-15	Rubber washer	1
3-16	Stop shaft	1
3-17	Spring	1
3-18	Reverse feed control lever	1
3-19	Feed reverse shaft	1
3-20	Feed reverse shaft "O" ring	1
3-21	Screw	1
3-22	Screw	2
3-23	Washer	1
3-24	Feed-reverse crank	1
3-25	Feed reverse crank return plate	1
3-26	Feed reverse crank move plate	1
3-27	Spring	1
3-28	Screw	1
3-29	Spring stand	1

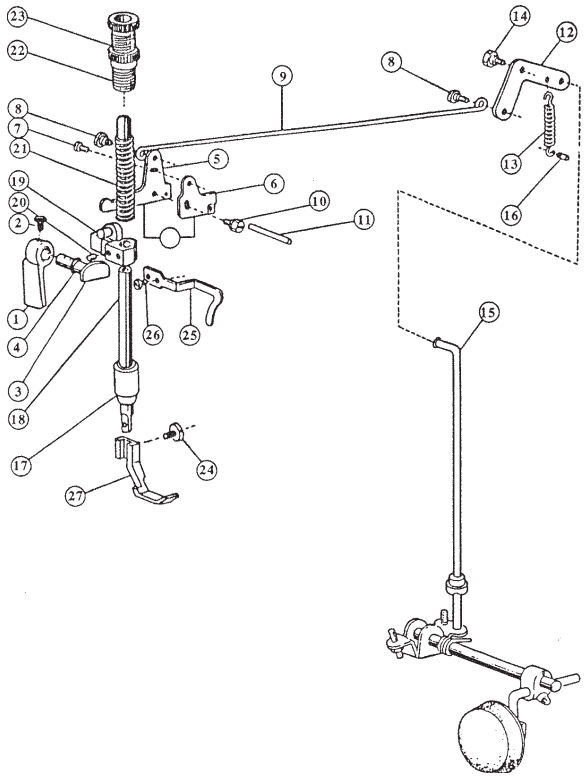
ASSEMBLY DIAGRAM 4 - FEED MECHANISM COMPONENTS



PARTS LIST 4

Part No.	Description	Q'ty
4-1	Feed crank	1
4-2	Screw	2
4-3	Feed holder	1
4-4	Feed dog	1
4-5	Screw	2
4-6	Feed Holder shaft	1
4-7	Screw	1
4-8	Feed rocker shaft	1
4-9	Oil wick	1
4-10	Feed driving shaft bushing	1
4-11	Screw	1
4-12	Feed rocker shaft	1
4-13	Feed driving shaft bushing	1
4-14	Screw	1
4-15	Thrust collar	1
4-16	Thrust collar	1
4-17	Screw	2
4-18	Feed driving shaft crank	1
4-19	Screw	2
4-20	Shaft	1
4-21	Feed crank	1
4-22	Feed crank moving shaft	1
4-23	Screw	1
4-24	Moving crank	1
4-25	Oil wick	1
4-26	Feed Lifting shaft bushing	1
4-27	Feed lifting shaft	1
4-28	Feed lifting shaft bushing	1
4-29	Screw	1
4-30	Washer	1
4-31	Washer	1
4-32	Thrust collar	1
4-33	Screw	2
4-34	Feed lifting shaft crank	1
4-35-A	Feed lifting pin	1
4-35-B	Screw	1
4-36	Screw	2
4-37	Snap ring	1

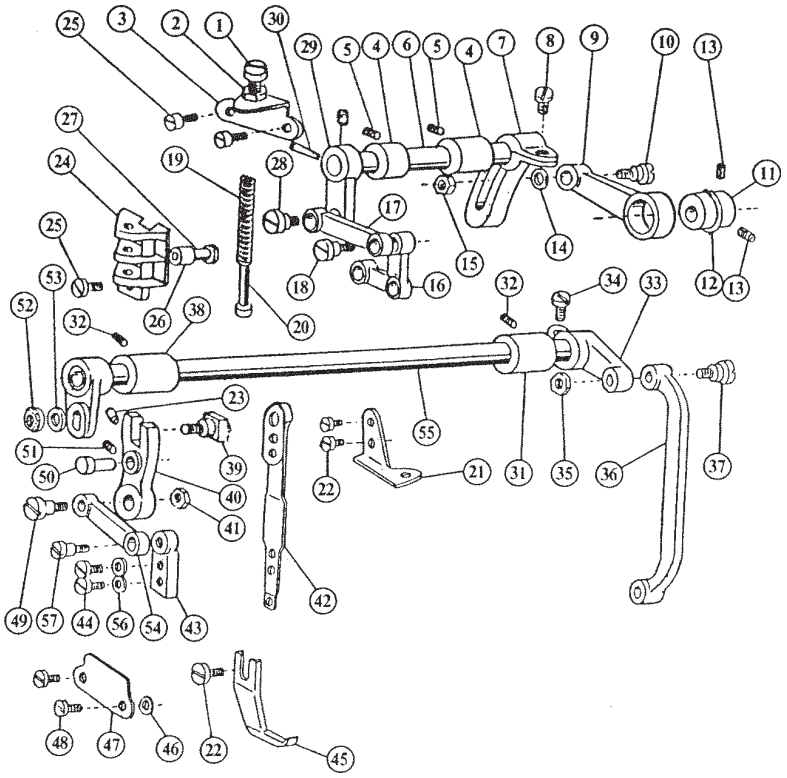
ASSEMBLY DIAGRAM 5 - PRESSER ARM



PARTS LIST 5

Part No.	Description	Q'ty
5-1	Presser foot lift bar	1
5-2	Screw	1
5-3	Presser foot lift bar	1
5-4	Oil seal	1
5-5	Lever(left)	1
5-6	Thread releasing cam	1
5-7	Screw	1
5-8	Screw	2
5-9	Knee lifter drawing bar	1
5-10	Screw	1
5-11	Thread releasing lever	1
5-12	knee lifter lever (right)	1
5-13	Spring	1
5-14	Screw	1
5-15	Connecting rod	1
5-16	Pin	1
5-17	presser bar Bushing	1
1-18	Presser bar	1
5-19	presser bar Guide	1
5-20	Screw	1
5-21	Spring	1
5-22	Screw	1
5-23	Nut	1
5-24	Screw	1
5-25	Thread guide	1
5-26	Screw	1
5-27	Presser foot	1

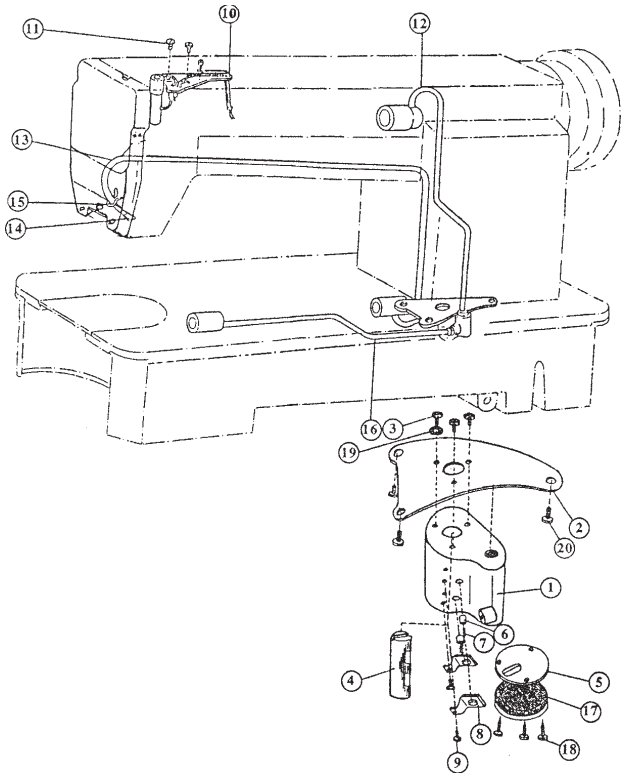
ASSEMBLY DIAGRAM 6 - FEED MECHANISM COMPONENTS



PARTS LIST 6

Part No.	Description	Q'ty
6-1	Screw	1
6-2	Nut	1
6-3	adjusting screw Bracket	1
6-4	Bushing	2
6-5	Screw	2
6-6	Presser foot lift shaft	1
6-7	Link adjusting crank	1
6-8	Screw	1
6-9	Link complete	1
6-10	Screw	1
6-11	Eccentric cam	1
6-12	Split ring	1
6-13	Screw	2
6-14	Washer	1
6-15	Nut	1
6-16	Presser foot feed crank	1
6-17	Link	1
6-18	Screw	1
6-19	Spring	1
6-20	Guidepin	1
6-21	Set plate	1
6-22	Screw	1
6-23	Pin	1
6-24	Guide plate	1
6-25	Screw	2
6-26	Needle bearing	1
6-27	Guide shaft	1
6-28	Screw	1
6-29	Crank	1
6-30	Pin	1
6-31	Rear bushing	1
6-32	Screw	2
6-33	Rear crank	1
6-34	Screw	1
6-35	Nut	1
6-36	Link	1
6-37	Screw	1
6-38	Front bushing	1
6-39	Crank shaft complete	1
6-40	Fork lever	1
6-41	Nut	1
6-42	Walking foot lever	1
6-43	walking foot bar Holder	1
6-44	Screw	2
6-45	Walking foot	1
6-46	Shim	2
6-47	Presser plate	1
6-48	Screw	2
6-49	Screw	1
6-50	Pin	1
6-51	Screw	1
6-52	Nut	1
6-53	Washer	1
6-54	walking foot Link	1
6-55	Presser foot swing shaft	1
6-56	Spacer	1
6-57	Screw	1

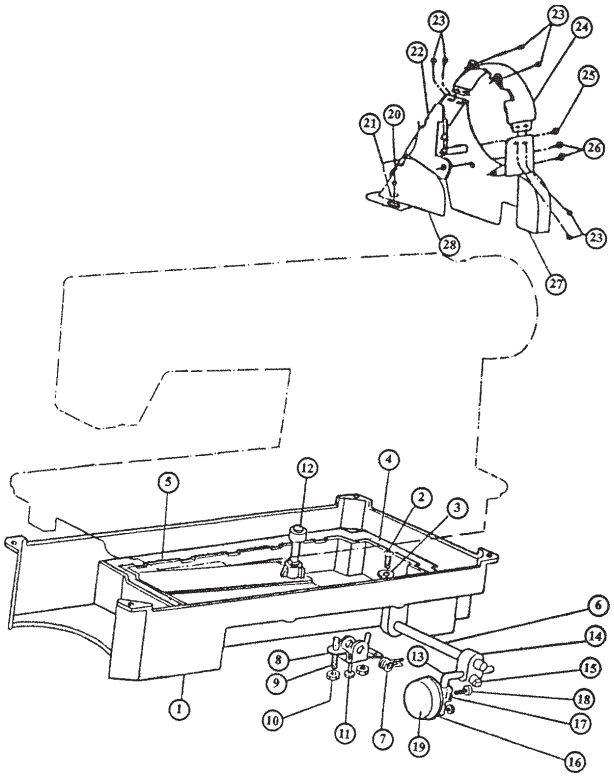
ASSEMBLY DIAGRAM 7 - LUBRICATION COMPONENTS



PARTS LIST 7

Part No.	Description	Q'ty
7-1	Lubrication oil pump	1
7-2	Oil pump holder	1
7-3	Screw	3
7-4	Oil pump shaft	1
7-5	Oil pump cover	1
7-6	Oil return pump plunger	2
7-7	Spring	2
7-8	Cover	2
7-9	Screw	2
7-10	Frame	1
7-11	Screw	2
7-12	Oil wick set plate complete	1
7-13	Oil return tube holder	1
7-14	Felt	1
7-15	Spring Frame	1
7-16	Oil tube	1
7-17	Oil pump screen	1
7-18	Screw	3
7-19	Washer	3
7-20	oil pump Screw	3

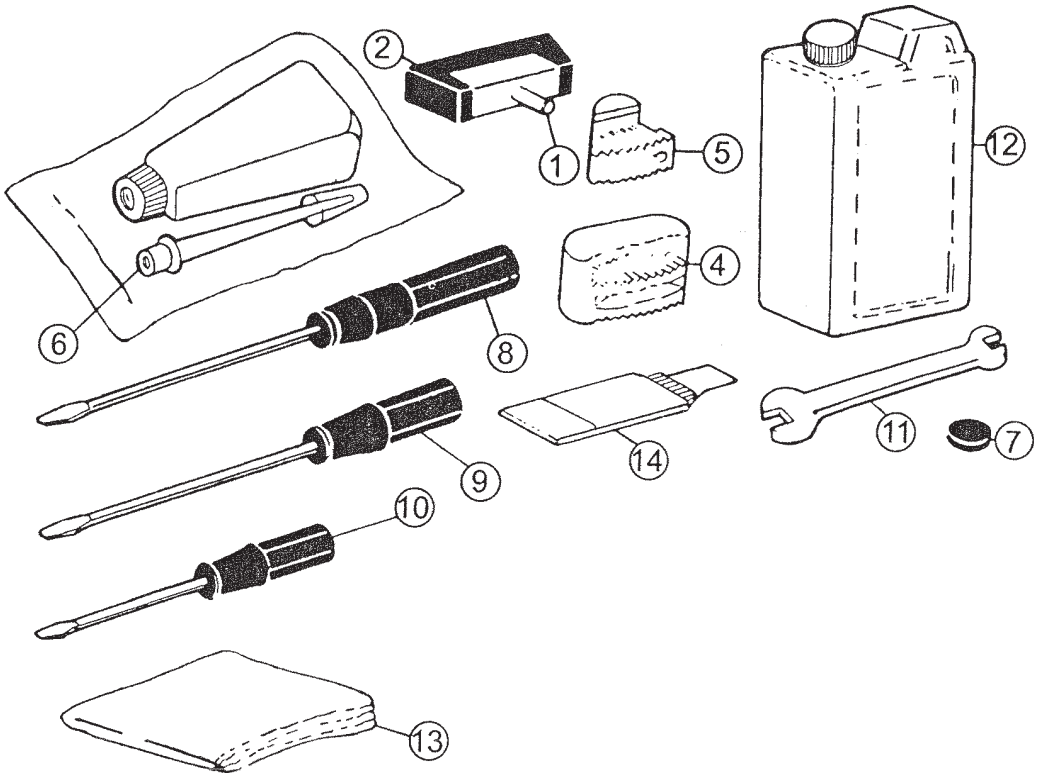
ASSEMBLY DIAGRAM 8 - OIL RESERVOIR



PARTS LIST 8

Part No.	Description	Q'ty
8-1	Oil reservoir	1
8-2	Screw	1
8-3	Washer	1
8-4	Washer	1
8-5	Gasket (large)	1
8-6	Hinge pin	1
8-7	Spring	1
8-8	Frame	1
8-9	Screw	2
8-10	Nut	2
8-11	Screw	1
8-12	Knee lifter prop bar	1
8-13	Bent rod	1
8-14	Screw	1
8-15	Screw	2
8-16	Bell	1
8-17	Bell bracket	1
8-18	Screw	1
8-19	Pad	1
8-20	Screw	2
8-21	Washer	2
8-22	Belt cover top	1
8-23	Screw	6
8-24	Label	1
8-25	Screw	1
8-26	Screw	2
8-27	Belt cover	1
8-28	Belt cover asm	1

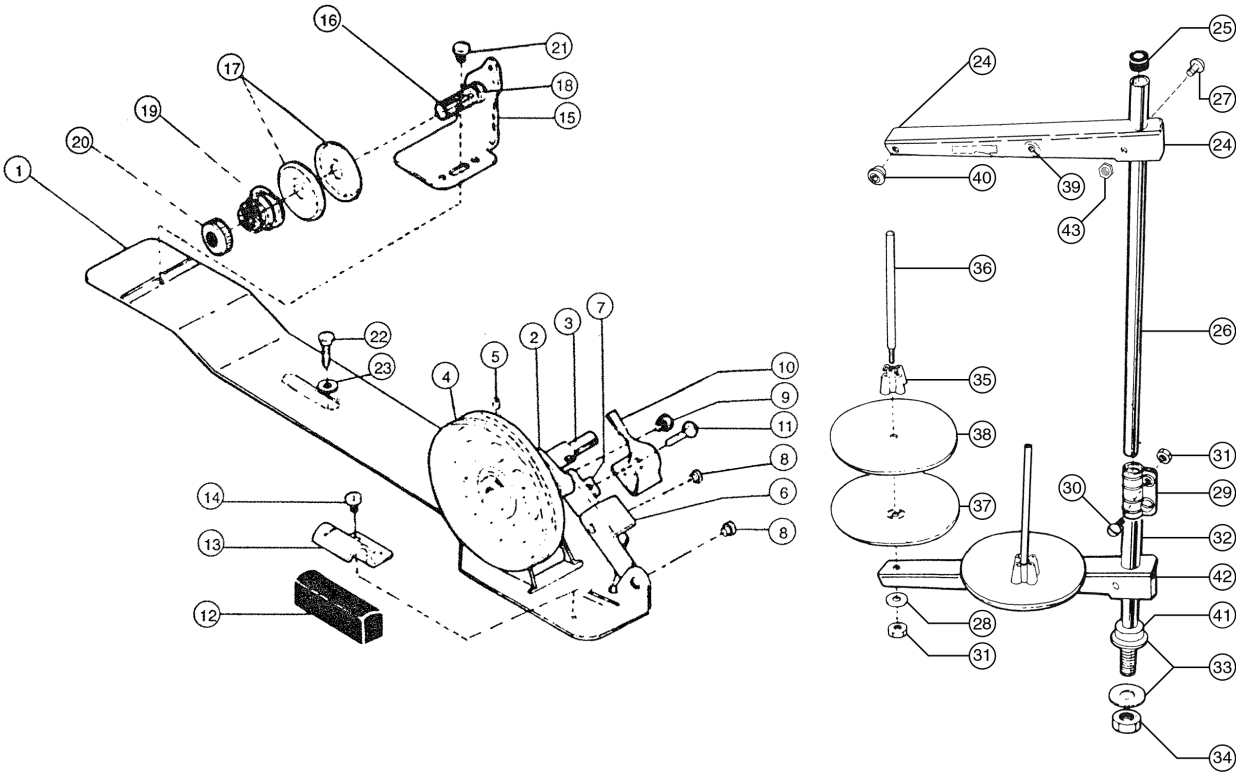
ASSEMBLY DIAGRAM 9 - ACCESSORIES



PARTS LIST 9

Part No.	Description	Q'ty
9-1	Machine hinge plate asm	2
9-2	Machine hinge plate	2
9-4	Washer (Large)	2
9-5	Washer (small)	2
9-6	Oil can (small)	1
9-7	Magnet	1
9-8	Screwdriver (Large)	1
9-9	Screwdriver (Medium)	1
9-10	Screwdriver (small)	1
9-11	Spanner	1
9-12	Oil can	1
9-13	Dust cover	1
9-14	Needle	4

ASSEMBLY DIAGRAM 10 - BOBBIN WINDER AND THREAD STAND



PARTS LIST 10

BOBBIN WINDER

Part	Description	Q'ty
10-1	Bobbin Winder Base Asm	1
10-2a	Thread Winder Base Asm	1
10-2b	Bobbin Winder Stand Shaft	1
10-2c	Spring	1
10-3	Bobbin Winder Shaft	1
10-4	Thread Winder Asm	1
10-5	Screw	1
10-6	Bobbin Winder Frame Pin	1
10-7	Connecting Rod	1
10-8	Screw	2
10-9	Screw	1
10-10	Bobbin Winder Spring	1
10-11	Screw	1
10-12	Rubber Brake	1
10-13	Presser Plate	1
10-14	Screw	1
10-15	Thread Tension Asm	1
10-16	Screw	1
10-17	Tension Disc	2
10-18	Screw	1
10-19	Tension Spring	1
10-20	Thread Tension Stud Nut	1
10-21	Screw	1
10-22	Wood Screw	2
10-23	Washer	2

THREAD STAND

Part	Description	Q'ty
10-24	Thread Hanger	1
10-25	Column Cap	1
10-26	Upper Column	1
10-27	Screw	2
10-28	Washer	2
10-29	Column Pipe Connector	1
10-30	Screw	2
10-31	Nut	4
10-32	Lower Column	1
10-33	Washer	2
10-34	Nut	1
10-35	Spool Holder	2
10-36	Spool Pin	2
10-37	Spool Rest	2
10-38	Spool Mat	2
10-39	Thread Guide Tube	2
10-40	Thread Guide Grommet	2
10-41	Rubber Washer	1
10-42	Spool Support	1
10-43	Nut	2

CHICAGO® Electric

LIMITED 90 DAY WARRANTY

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of ninety days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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